

CLAIMS

Therefore, having thus described the invention, at least the following is claimed:

- 1 *Sub A* 1. A first digital subscriber line (DSL) modem communicatively coupled  
 2 with a second DSL modem, the first DSL modem comprising:  
 3 a digital signal processor configured to selectively configure at least one system  
 4 parameter in response to an identification of a manufacturer of the second DSL modem;  
 5 and  
 6 a memory device communicatively coupled to the digital signal processor  
 7 configured to store the at least one system parameter, wherein the system parameter is  
 8 pre-configured to optimize data communications between the first and second DSL  
 9 modems.
- 1 2. The modem of claim 1, wherein the memory device is configured to store  
 2 at least one operational algorithm pre-configured to optimize data communications  
 3 between the first and second DSL modems.
- 1 3. The modem of claim 1, wherein the digital signal processor applies at least  
 2 one system parameter upon initial power-up in response to a default manufacturer  
 3 associated with the second DSL modem.
- 1 4. The modem of claim 2, wherein the digital signal processor applies at least  
 2 one operational algorithm upon initial power-up in response to a default manufacturer  
 3 associated with the second DSL modem.
- 1 5. The modem of claim 3, wherein the digital signal processor is configured  
 2 to compare the default manufacturer identification with actual manufacturer identification  
 3 information received during DSL initialization training.

1           6.     The modem of claim 5, wherein the digital signal processor is configured  
2     to determine if expected system performance gains associated with retraining the DSL  
3     justify a retrain with system parameters previously identified as suitable for optimizing  
4     data communications between the first and second DSL modems.

1           7.     The modem of claim 5, wherein the modem is configured to replace the  
2     default manufacturer associated with the second DSL modem with the actual  
3     manufacturer identification information received during DSL initialization training.

1           ~~8.~~    A digital subscriber line (DSL) communication system, comprising:  
2           a first modem configured to appropriately apply at least one system parameter pre-  
3     configured to optimize data communications with DSL modems originating from a  
4     specific manufacturer;  
5           a two-wire pair telephone line communicatively coupled to the first modem; and  
6           a second modem communicatively coupled to the two-wire pair telephone line.

1           9.     The digital subscriber line (DSL) of claim 8, wherein the first modem is  
2     configured to appropriately apply at least one operational algorithm responsive to the  
3     manufacturer of the second modem.

1           10.    The digital subscriber line (DSL) of claim 8, wherein the first modem is  
2     pre-configured with a set of system parameters selected to optimize data communications  
3     on a DSL formed with a second modem from a particular manufacturer.

1           11.    The digital subscriber line (DSL) of claim 9, wherein the first modem is  
2     pre-configured with at least one operational algorithm pre-configured to optimize data  
3     communications on a DSL formed with a second modem from a particular manufacturer.

1 12. A digital subscriber line (DSL) modem, comprising:  
 2 means for applying a default variable identifying the manufacturer of a  
 3 communicatively coupled remote DSL modem; and  
 4 means for selectively applying at least one system parameter during initial DSL  
 5 system training in response to the identified manufacturer of the remote modem.

1 13. The modem of claim 12, further comprising:  
 2 means for selectively applying at least one operational algorithm during initial  
 3 DSL system training in response to the identified manufacturer of the remote modem.

1 14. The modem of claim 12, further comprising:  
 2 means for determining if at least one system parameter responsive to the actual  
 3 manufacturer of the remote modem would result in a measurable difference in DSL data  
 4 transfer characteristics when compared to current DSL data transfer characteristics using  
 5 the default variable identified system parameter.

1 15. The modem of claim 12, wherein the means for applying a default variable  
 2 comprises a memory device.

1 16. The modem of claim 12, wherein the means for selectively applying at  
 2 least one system parameter comprises a table in a memory device responsive to the  
 3 default variable.

1 17. The modem of claim 13, further comprising:  
 2 means for determining if at least one operational algorithm responsive to the  
 3 actual manufacturer of the remote modem would result in a measurable difference in DSL  
 4 data transfer characteristics when compared to current DSL data transfer characteristics  
 5 using the default variable identified at least one operational algorithm.

1           18.     The modem of claim 14, wherein the means for determining if at least one  
2 system parameter responsive to the actual manufacturer of the remote modem would  
3 result in a measurable difference in DSL data transfer characteristics comprises a digital  
4 signal processor in communication with a memory device.

1           19.     The modem of claim 17, wherein the means for determining if at least one  
2 operational algorithm responsive to the actual manufacturer of the remote modem would  
3 result in a measurable difference in DSL data transfer characteristics comprises a digital  
4 signal processor in communication with a memory device.

1           20.     A method for optimizing digital subscriber line (DSL) system performance  
2 between first and second DSL modems supplied by different manufacturers, comprising:  
3           supplying a default manufacturer identification to a first modem;  
4           applying appropriate system parameters in response to the default manufacturer  
5 identification;  
6           initiating DSL system start-up training;  
7           receiving the actual manufacturer identification from the second DSL modem;  
8           making a determination if the system parameters are suitable for DSL operation  
9 with the actual manufacturer of the second modem;  
10          adjusting system parameters when required in response to the actual manufacturer  
11 identification; and  
12          establishing the DSL link.

1           21.     The method of claim 20, wherein the step of supplying a default  
2 manufacturer is responsive to the most probable vendor in a geographic area.

1           22.    The method of claim 20, wherein the step of making a determination if the  
2   system parameters are suitable for DSL operation with the actual manufacturer of the  
3   second DSL modem is replaced with the steps of:  
4           replacing the default manufacturer identification information with the actual  
5   received manufacturer identification; failing the DSL system start-up training; and  
6           reinitiating the DSL system start-up training.

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